

Fast Boot Overview

Key Features

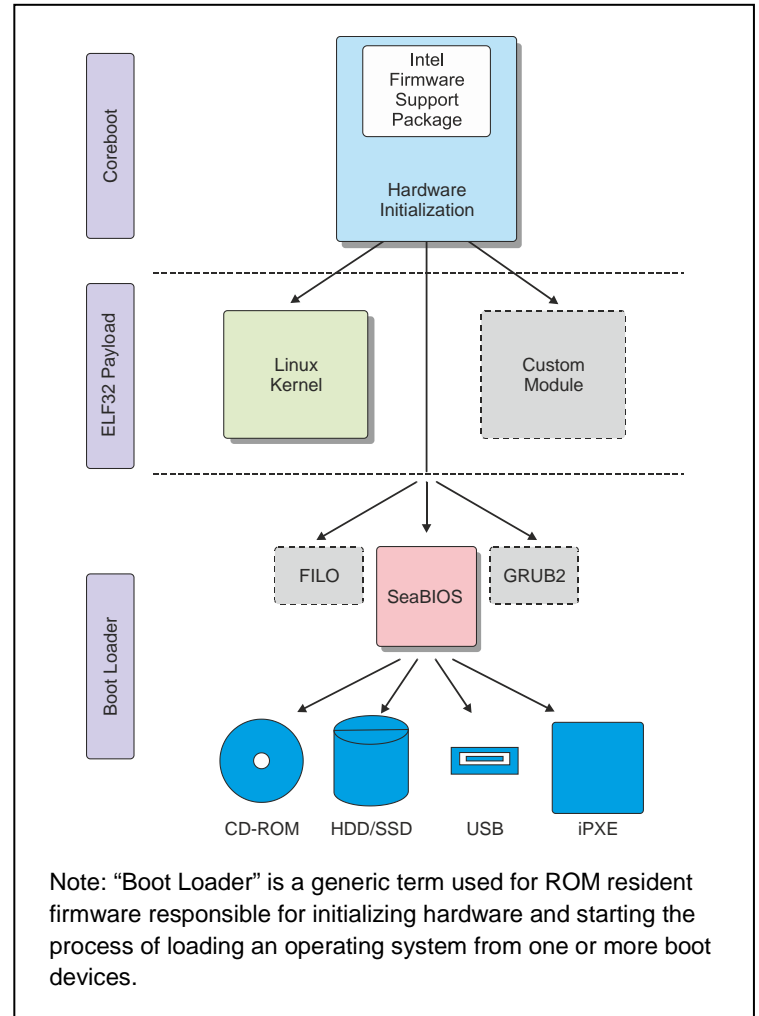
Concurrent Technologies' boards are used in a wide range of embedded applications in the industrial, transportation, military and communications markets. By default, our Intel processor boards are supplied with a BIOS that initializes all the specific hardware before passing control to a boot loader for operating system and application installation. By definition, the BIOS based solution is totally generic and offers widespread compatibility but is not optimized for the fastest boot times. For those applications that need more speedy start up times, Fast Boot can be the solution.

Specification

- Fast Boot is an alternative boot loader firmware image that can be programmed directly into a range of Concurrent Technologies computing boards supporting Intel® processors
- Fast Boot can take the board from power-on through to starting the operating system boot in approximately 3 seconds
- Boot direct to and load a Linux kernel from onboard ROM

Fast Boot Specifics

- Referring to the block diagram, Fast Boot as an optimized boot loader is designed for speed and is based on two elements:
 - Coreboot, an Open Source boot loader module
 - Intel® Firmware Support Package (FSP), a binary hardware initialization module specifically designed for creating fast boot loader firmware.
- The Coreboot module and the FSP module perform:
 - hardware initialization of the board's processor and chipset
 - basic bootstrap capabilities via an ELF32 module loader, to load a minimal Linux kernel image directly from ROM (using the free space remaining in the on-board firmware EEPROM).
- To boot an operating system from a hard disk, CD-ROM or USB mass-storage device, a boot loader payload is required such as:
 - SeaBIOS, FILO or GRUB2
 - or for network booting, SeaBIOS plus iPXE can be used



Fast Boot Software Package

- The Concurrent Technologies Fast Boot Software Package is provided as a software development kit:
 - enables the full customization and production of a fast boot loader firmware image
 - provides the necessary programming and configuration tools
 - with examples, including a pre-built Linux Kernel example suitable for programming the target board's firmware EEPROM, along with pre-built SeaBIOS and iPXE payloads.
- For further information please contact your local sales office

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